

REMARKS

The Official Action dated March, 2005 has been carefully considered. Accordingly, the changes presented herein, taken with the following remarks, are believed sufficient to place the present application in condition for allowance. Reconsideration is respectfully requested.

By present amendment, claim 20 has been amended to incorporate the wear point element of claim 25, which has been canceled. Claim 26 has been amended to incorporate the elements of claim 20 and thereby stand in independent form. Claim 29 has been amended to recite that the string holder is unitary (i.e., a single piece), support for which may be found in Figures 1 and 2. Claim 33 has been amended to incorporate the elements of claim 20 and thereby stand in independent form. And claim 36 has been amended to correct a matter of form. Care has been taken to avoid the introduction of new matter, and entry of these amendments is respectfully requested.

Claims 20, 21, 23, 25-28, and 30 were rejected under 35 U.S.C. 102(b) as being anticipated by Nannen (No. 5,906,051). The Examiner asserted that Nannen discloses a spindle housing, shaft, carrier for a cutting element, a mow ball rotatably connected to one end of the shaft (ground guide), a string carrier plate, string guide, string holder (ref. 22 and 20), a clamping portion with a raised lip, a wear point, and a grooved spindle shaft.

The rejection is traversed. By present amendment, claim 20 has been amended to recite a wear point removably connected to the mow ball, a feature contained in claim 25 (now canceled). The Examiner asserted that Nannen discloses a wear point in Figure 1, but Applicant finds no teaching or suggestion in Nannen of a wear point removably connected to the mow ball. In the ground guide portion of Figure 1 of Nannen copied in the Official Action, the Examiner added an arrow labeled "wear point" pointing to the general area of reference numeral 76, but this is not a wear point as disclosed by the present application. Nannen's reference 76 is described as the smooth,

convex surface of the ground guide, which slides over and in contact with the ground to maintain trimming means at a constant elevation (see column 4, lines 64-67). The apparently flat bottom of the ground guide as seen in cross-section is an artifact of the viewing angle, and is neither identified nor described in Nannen. In fact, as is evident from the cut-away section of the ground guide in Fig. 1 of Nannen showing the internal radial support members (ref. 79), the bottom of the ground guide is open or hollow, and slopes inward to the retaining ring (ref. 88). In contrast, the present invention describes a wear point that is removably attached to the mow ball to protect the surface of the mow ball from wear where it contacts the ground. As the wear point is worn from use, it is removed from the mow ball and replaced with another wear point. Accordingly, the rejection with respect to claims 20, 21, 23 and 25 has been traversed, and reconsideration is respectfully requested.

The rejection also is traversed with regard to claims 26-28 and 30. Claim 26 has been amended to incorporate the elements of claim 20 as initially presented, and stand as an independent claim. Amended claim 26 recites a grooved spindle shaft and a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. Applicant finds no teaching or suggestion in Nannen of a grooved spindle shaft or a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. The Examiner asserts that three different parts of the spindle shaft in Nannen are equivalent to the grooves disclosed in the present application, but all three parts are distinguishable. First, Nannen describes a threaded portion (ref. 44) of the mounting shaft (ref. 42) for mounting the ground guide (ref. 50), but these threads allow height adjustment of the ground guide (which the Examiner has asserted is equivalent to the mow ball of the present invention), not height adjustment of the trimming means (ref. 18) (see col. 5, lines 1-3). Second, Nannen describes a compression spring (ref. 58) arranged around a reduced portion (ref. 56) of the

shaft to resiliently bias the mounting shaft in a downward axial direction (see col. 4, lines 23-28). This spring is not a groove in the spindle shaft, and does not allow adjustable connection of the string carrier assembly to the spindle shaft, as disclosed in the present invention. Third, Nannen describes an elongated keyway (ref. 66) in the reduced portion (ref. 56) of the mounting shaft (ref. 42) extending out through a hole (ref. 60) in the top of the housing (ref. 12). A key member (ref. 64) engages the keyway (ref. 66) to hold the shaft in a fixed reference position against the forces of the spring and gravity, and removal of the shaft for maintenance purposes (see col. 4, lines 28-46). The keyway of Nannen is not used to adjustably connect the string carrier assembly to the spindle shaft, and, in fact, is not near the string carrier. In addition, separate and apart from the absence of grooves in the spindle shaft of Nannen, the trimming means (ref. 18) of Nannen is not adjustably connected to the spindle shaft. Accordingly, the rejection of claim 26 has been traversed, and reconsideration is respectfully requested.

With regard to claims 27, 28 and 30, the Examiner has failed to show or assert that Nannen teaches or discloses a mounting assembly and a string carrier plate, where the plate comprises a string guide and a string holder, further wherein the string holder comprises a raised lip portion and a clamping portion. Applicant finds no teaching or suggestion of these elements in Nannen. Furthermore, as the rejection of claim 26 has been traversed for the reasons described above, the rejection of dependent claims 27, 28, and 30 also has been traversed. Reconsideration is respectfully requested.

Claims 20, 21, 23, 25-28, 30, 33-36, and 40 were rejected under 35 U.S.C. 102(b) as being anticipated by Harb (No. 6,052,974). With regard to claims 20, 25, and 26, the Examiner asserted that Harb discloses a spindle housing, a shaft or hub rotatably coupled to the spindle housing, and a mow ball shown at the lower end of a hub. With regard to claims 21, 23, 27, 28, 30, 35, and 40, the

Examiner asserted that Harb discloses a string carrier plate, string guide, string holder with a raised lip and clamping portion, a mounting assembly, and a carrier plate. With regard to claims 33 and 34, the Examiner asserted that Harb discloses a string mount, cutting disk, and keyed spindle shaft of the height adjusting tube connected to the mow ball, adapted to or capable of being fixed at various locations.

The rejections are traversed. With regard to claims 20, 25, and 26, claim 20 has been amended to recite a wear point removably connected to a mow ball rotatably connected to one end of the spindle shaft. The Applicant finds no teaching or suggestion of a removable wear point or a rotatably connected mow ball in Harb. Claim 25 has been canceled. And claim 26 has been amended to recite a grooved spindle shaft and a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. Applicant finds no teaching or suggestion in Nannen of a grooved spindle shaft or a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. Height adjustment of the invention in Harb is accomplished by means of a series of holes and attachment bolts (see Fig. 1A). Accordingly, the rejection of claims 20, 25, and 26 has been traversed, and reconsideration is respectfully requested.

With regard to claims 21, 23, and 40, these claims are dependent on claim 20. As the rejection of claim 20 as amended has been traversed, the rejection of claims 21, 23 and 40 also has been traversed. Reconsideration is respectfully requested.

With regard to claims 27, 28 and 30, these claims are dependent on claim 26. As the rejection of claim 26 as amended has been traversed, the rejection of claims 27, 28 and 30 also has been traversed. Reconsideration is respectfully requested.

With regard to claims 33-36, Applicant finds no teaching or suggestion of a keyed spindle shaft in Harb. As seen in Figures 8 and 9 of the present application, the keyed portion of the spindle shaft (ref. 66) comprises a raised ridge extending longitudinally along one side of the shaft. This ridge fits within a matching slot in the keyed inner portion (ref. 70) of the height adjustment tube (ref. 68). When the keyed spindle shaft is inserted into the keyed inner portion, the height adjustment tube and keyed spindle shaft rotate together when the keyed spindle shaft is rotated. In contrast, Harb discloses a cylindrical central core (ref. 12) with a plurality of circumferentially disposed locking holes (ref. 18), with each row comprising three holes evenly spaced around the core. These holes are used to lock the core in place as part of the height adjustment mechanism of Harb. A series of collar attachment bolts (ref. 26) is provided for securing the integral locking collar (ref. 22) of the height adjustment plate (ref. 14) to the central core (ref. 12). Accordingly, the rejection of claims 33-36 is traversed, and reconsideration is respectfully requested.

Claims 20-30, 32-37, and 40 were rejected under 35 U.S.C. 102(b) as being anticipated by Sweet (No. 4,205,439). The Examiner asserted that Sweet discloses a spindle housing, a spindle shaft that is both keyed and grooved, a pulley, a mow ball rotatably connected to one end of the spindle shaft, a string carrier plate (ref. 292) connected to the spindle shaft intermediate the spindle housing and the mow ball, a string guide (ref. 294), a string holder (ref. 293 or 290) with a raised lip portion and a clamping portion, v-shaped openings for holding string, a s-shaped holder, a wear point (ref. 155), a height adjustment tube, a string mount, and a cutting disk.

The rejection is traversed. With regard to claims 20-25 and 40, claim 20 has been amended to recite a wear point removably connected to the mow ball. The Examiner erroneously asserts that reference 155 in Sweet is a wear point. Reference 155 actually is a first end of the shaft (ref. 154), and is threaded to engage with nut (ref. 160). The first end (ref. 155) does not contact the ground,

and, in fact, is not exposed, as seen most clearly in Figures 22 and 27 (showing the first end, ref. 155, above the string cutting assembly and above the element, ref. 251, that the Examiner asserts is analogous to a mow ball). Figures 22 and 27 also clearly show that ref. 155 is not removably connected to the "mow ball" (ref. 251). Accordingly, Applicant finds no teaching or suggestion in Sweet of a wear point removably attached to the mow ball, and the rejection of claim 20 is traversed. Claims 21-24 and 40 are dependent on claim 20, and the rejection of these claims thus is likewise traversed. Reconsideration is respectfully requested.

With regard to claims 26-30 and 32, claim 26 has been amended to recite a grooved spindle shaft and a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. Applicant finds no suggestion or teaching in Sweet of a grooved spindle shaft and a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. Figure 13 of Sweet does not disclose a grooved spindle shaft in accordance with the present invention. The shaft (ref. 154) in Figure 13 is not grooved, and the specification of Sweet does not disclose any grooves in said shaft (compare with the grooves, ref. 54, seen in Figures 5 and 6 of the present application). Accordingly, the rejection of claim 26 and dependent claims 27-30 and 32 has been traversed, and reconsideration is respectfully requested.

With regard to claim 29, Sweet can be further distinguished. By present amendment, claim 29 has been amended to recite a unitary (i.e., the holder is a single piece) s-shaped string holder. Applicant finds no teaching or suggestion in Sweet of a unitary s-shaped string holder. As seen in Figure 29, the string holder disclosed in Sweet is not unitary. The string holder in Sweet comprises three annular plates (refs. 290, 292, and 293), where the top and bottommost plates act as a first (ref. 290) and second (ref. 293) clamping members holding the string against the guide means (ref. 292)

(see col. 11, lines 53-59, and col. 12, lines 15-25). Further, the string holder itself is not s-shaped, although the Examiner asserts that the *string* appears s-shaped from a side view when shown in a biased state. In contrast, the string holder of the present invention is s-shaped, although the string when held is not s-shaped from any viewpoint. As can be seen in Figure 3 of the present application, the string (ref. 38) is doubled and forms a loop at the point it is held by the string holder (ref. 40). The s-shape of the string holder should not be confused with the shape of the string. Accordingly, the rejection of claim 29 is traversed on this ground as well, and reconsideration is respectfully requested.

With regard to claims 33 to 37, claim 33 has been amended to stand independently, and recites a spindle housing, a keyed spindle shaft rotatably coupled to the spindle housing, a mow ball rotatably connected to one end of the keyed spindle shaft, a height adjustment tube connected to the mow ball and adapted to receive the keyed spindle shaft, and a string cutting assembly adjustably connected to the height adjustment tube and adapted to be fixed at various positions along the height adjustment tube. Applicant finds no teaching or suggestion in Sweet of a keyed spindle shaft. Figure 13 of Sweet does not disclose a keyed spindle shaft in accordance with the present invention. The shaft (ref. 154) in Figure 13 is not keyed as it does not contain a longitudinal raised ridge that fits within a matching slot or indentation on the interior of the hollow cylindrical housing (ref. 139). In fact, as the interior of the cylindrical housing of Sweet is a hollow bore, there apparently can be no keying between the shaft and the interior of the cylindrical housing. The specification of Sweet also does not disclose any keying with regard to said shaft (compare with the keying seen in Figures 8 and 9 of the present application). In addition, Applicant finds no teaching or suggestion of a height adjustment tube keyed to a shaft in Sweet. The Examiner erroneously asserts that reference 269 in Sweet correlates to a height adjustment tube connected to the mow ball. Sweet describes reference

269 as the open first end of the cylindrical section (ref. 265) of the second cup-shaped member (ref. 251) (see col. 11, lines 3-8). The Examiner has asserted that this cup-shaped member (ref. 251) corresponds to the mow ball of the present invention, so reference 269 thus is simply the upper part of the "mow ball," and is not a separate height adjustment tube as disclosed in the present invention. Accordingly, the rejection of claim 33 and dependent claims 34-37 has been traversed, and reconsideration is respectfully requested.

Claims 20 and 25 were rejected under 35 U.S.C. 102(b) as being anticipated by Watrous (No. 2,669,826). The Examiner asserted that Watrous discloses a spindle shaft and string carrier assembly having a mow ball removable wear point (Fig. 4, ref. 45).

The rejection of claims 20 and 25 is traversed. Claim 25 has been canceled, and claim 20 has been amended to recite a wear point removably connected to the mow ball rotatably connected to the spindle shaft. Applicant finds no teaching or suggestion in Watrous of a wear point removably connected to a mow ball rotatably connected to a spindle shaft. Reference 45 is described by Watrous as a downwardly convex shoe or skid supporting the mowing head at a fixed distance above the ground (see col. 3, lines 28-34, 57-58). Reference 45 thus appears to be most closely analogous to the mow ball of the present invention, and not a separate wear point removably attached to said mow ball. When the wear point of the present invention is removed, the mow ball stays attached to the spindle, and the grass trimmer is still operable. In contrast, if the shoe or skid (ref. 45) of Watrous is removed, there is no "mow ball" attached to the spindle, and as the shoe or skid is used to support the mowing head at a fixed distance above the ground, the lawn mower of Watrous would not be functional as disclosed therein. Accordingly, the rejection of claims 20 and 25 has been traversed, and reconsideration is respectfully requested.

Claims 20-24 and 26-31 were rejected under 35 U.S.C. 1 as claiming the same invention as that of claim 1 of prior U.S. Pat. No. 6,666,009. This rejection is traversed. Amended claims 20 and 26 (and their dependent claims) are not coextensive in scope with claim 1 of prior U.S. Pat. No. 6,666,009. Statutory double patenting prevents two patents from issuing on the same invention. "Same invention" means identical subject matter. See MPEP 804(II)(A). A reliable test for statutory double patenting is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent. *Id.* (citing *In re Vogel*, 422 F.2d 438 (CCPA 1970)). If there is an embodiment of the invention that falls within the scope of one claim but not the other, then identical subject matter is not defined by both claims and statutory double patenting would not exist. See MPEP 804(II)(A).

With regard to claims 20-24, claim 20 has been amended to recite a wear point removably connected to the mow ball. This amendment incorporates the wear point element of claim 25, which the Examiner did not reject under 35 U.S.C. 1, into claims 20-24. Claim 1 of prior U.S. Pat. No. 6,666,009 does not claim a wear point removably connected to the mow ball. Accordingly, there is no identical subject matter, the rejection has been traversed with regard to claims 20-24, and reconsideration is respectfully requested.

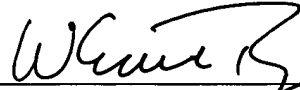
With regard to claims 26-31, claim 26 has been amended to recite a spindle assembly comprising a spindle housing, a grooved spindle shaft rotatably coupled to the spindle housing, a mow ball rotatably connected to one end of the spindle shaft, and a string carrier assembly adjustably connected to the spindle shaft by means of said grooves intermediate the spindle housing and the mow ball. While these elements appear to be found in claim 1 of prior U.S. Pat. No. 6,666,009, claims 26-31 do not contain all the limitations of that claim 1, and thus identical subject matter is not defined by both sets of claims. This is confirmed by application of the above-described test, as

claims 26-31 in the present application could be literally infringed without claim 1 of prior U.S. Pat. No. 6,666,009 being infringed. One example of an infringing device (i.e., one with all of the elements of claim 26) could cause the spindle shaft to rotate by means other than a pulley connected to one end of the spindle shaft (this distinction applies to every single one of claims 26-31). Similarly, an infringing device (i.e., one with all the elements of claim 26) could use string holders that were not s-shaped. These devices would infringe claim 26 (or one of the dependent claims 27-31) but would not literally infringe claim 1 of prior U.S. Pat. No. 6,666,009. These hypothetical devices demonstrate that claims 26-31 could be infringed without claim 1 of prior U.S. Pat. No. 6,666,009 being infringed. This test establishes that there is no statutory double patenting. Accordingly, the rejection of claims 26-31 is traversed, and reconsideration is respectfully requested.

Claims 38 and 39 were objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As discussed above, the rejection of the base claim (now claim 33) has been overcome. Accordingly, the objection to claims 38 and 39 has been traversed, and reconsideration is respectfully requested.

The objection to claims 38 and 39, and the rejections of the remaining claims under 35 U.S.C. 101 and 35 U.S.C. 102(b), have been traversed with respect to all claims, and reconsideration is respectfully requested. It is believed that the above represents a complete response to the rejections under 35 U.S.C. 101 and 102(b), and places the present application in condition for allowance. Reconsideration and an early allowance are requested.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read "W. Edward Ramage", is written over a horizontal line.

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